



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,163	12/31/2003	Hiroki Mizuno	Q79225	6960

7590 11/05/2004
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3202

EXAMINER

PERRIN, JOSEPH L

ART UNIT	PAPER NUMBER
----------	--------------

1746

DATE MAILED: 11/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,163

Applicant(s)

MIZUNO ET AL.

Examiner

Joseph L. Perrin, Ph.D.

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/708,653.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 31 December 2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/708,653, filed on 09 November 2000.

Drawings

2. Figure 14 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 3 is objected to because of the following informalities: In claim 3, reference to the claim from which claim 3 depends (claim 1) is objected to because of redundancy (i.e. referring to claim 1 twice). Line 5 including "cleaning the roller...as set forth in claim 1" should be removed since the cleaning step is already claimed in claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 2, it is unclear what is meant by "rotatable". Is the claimed bearing ring positively claiming "rotating" as an active step or not? Clarification and correction are required. Since the limitation is directed to the ring merely having the capability of being rotated, the claim will be treated accordingly. Clarification and correction are required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4, 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 2,828,231 to Henry (cited by applicant). Re claims 1-3 & 8, Henry discloses the well known concept of cleaning a roller bearing by rotating one of an inner and outer ring relative to the other and flowing cleaning fluid axially through the roller bearing (see disclosed steps of cleaning an immersed roller bearing by flowing cleaning

liquid in the axial direction and one ring of the bearing being fixed (mounted) while the other is rotatable (see Figure 1; column 4, line 60; column 4, lines 53-59). Re claims 4 & 10, Henry further discloses applying ultrasonic energy for cleaning (column 3, line 60 *et seq.*). Re claim 9, Henry further discloses rotating and axially reciprocating the bearing via conventional means (not shown), which implicitly teaches a motor.

8. Claims 1-2, 5-6, 8, & 11 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 2,369,498 to Streuber (cited by applicant). Re claim 1, Streuber discloses a method of cleaning a bearing by flowing cleaning fluid axially through a bearing between its inner and outer rings (see, for instance, page 2, column 2, lines 41-46 & Figure 5). Re claims 2, 5-6 & 8, Streuber further discloses the roller bearing with an inner and outer ring located near the surface of cleaning fluid, and one ring fixed (supported) and the other rotatable and high pressure angled jetting of cleaning liquid onto the rolling elements (see, for instance, Figure 2; page 1, column 1, lines 10-19; see also Figure 3 showing both a fixed inner ring/rotatable outer ring & a fixed outer ring/rotatable inner ring). Re claim 11, the position is taken since the high pressure jetting of cleaning liquid is used to begin rotation of a bearing ring that the initial cleaning upon application of cleaning fluid occurs without rotating the bearing.

9. Claims 1-3 & 11 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,727,619 to Robbins (cited by applicant). Re claim 1, Robbins discloses cleaning a roller bearing by flowing cleaning fluid through the roller bearing in an axial direction (see Figure 2 & column 4, lines 2-8). Re claims 2 & 5-6, Robbins

further discloses using a fixed apparatus 20 and rotatable apparatus 30 with the roller bearing therebetween (see Figure 1 and relative associated text). Re claim 3, Robbins discloses a closed system and flowing cleaning fluid around and through the roller bearings, which reads on applicant's immersing step (see column 4, lines 2-14). Re claim 11, Robbins further discloses flowing the fluid through the bearing, and subsequently allowing rotation of the bearing for cleaning (see column 4, lines 13-17).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 7 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Streuber in view of Henry or applicant's admitted prior art. Recitation of Streuber is repeated here from above. Streuber does not disclose using ultrasonic cleaning. Henry teaches that it is well known to provide ultrasonic energy to a roller bearing for improved cleaning (column 1, line 45 *et seq.*). Furthermore, applicant readily admits that it is conventional to use ultrasonic cleaning in cleaning roller bearings (see applicant's Figure 14 and relative associated text). Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the cleaning method of Streuber with an ultrasonic cleaning step for the purpose of improving cleaning of a roller bearing.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent No. 3,070,103 to Pickard *et al.*, which discloses axially treating a roller bearing; U.S. Patent No. 3,027,590 to Heim, which discloses air-cleaning a roller bearing.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Perrin, Ph.D. whose telephone number is (571)272-1305. The examiner can normally be reached on M-F 7:00-4:30, except alternate Fridays.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael E. Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joseph L. Perrin, Ph.D.
Examiner
Art Unit 1746



jlp